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| 09/768,483 | 01/23/2001 | Yu-Wen Hwang | 250206-1020 | 1536 |

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03/04/2004

EXAMINER

CHAN, ALEX H

| ART UNIT | PAPER NUMBER |
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2633

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DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,483

Applicant(s)

HWANG, YU-WEN

Examiner

Alex H Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2 and 7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. Amendment filed on January 28th, 2004 is herein acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by over U.S. Patent No. 5,801,858 to Roberts et al (hereinafter referred to as Roberts).

Regarding claim 1, Roberts discloses an optical function module (10 of Fig. 1B or Fig. 4) for bi-directional wavelength-division multiplexer (WDM) optical communication system (Col. 3, lines 58-59 & Col. 6, lines 55-56), comprising: at least one wavelength managing module ("C" of Fig. 1B or 41 of Fig. 4) having a plurality of ports (11-14 of Fig. 1B), the wavelength managing module optically coupling between a first optical transceiver ("A" of Fig. 1) and a second optical transceiver ("B" of Fig. 1), wherein the first and the second optical transceivers provides a first (Red band, Fig. 3 and Col. 6, line 55) and a second optical channels (Blue band, Fig. 3) respectively for transmitting a plurality of optical signals with different wavelengths (Col. 3, lines 43-47 and Col. 4, lines 32-51); and at least one uni-directional optical function module (10 of Fig. 1B or 27 of Fig. 3) having a high isolation function from an optical

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isolator (e.g. via 33, 35 or 37 of Fig. 3), and coupling to the ports of the wavelength managing module (e.g. via ports 11-14 of Fig. 1B).

Regarding claim 2, Roberts discloses the uni-directional optical function module having the high isolation function is an optical amplifier module (15 of Fig. 1B or 27 and 31 of Fig. 3 or 42 and 47 of Fig. 4 and Col. 3, lines 58-61 & Col. 6, lines 63-66) with the optical isolator (35 or 37 of Fig. 3), and couples to the ports of the wavelength managing module (e.g. via 11-14 of Fig. 1B or 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent No. 5,809,190 to Chen.

Regarding claim 7, Roberts fails to disclose that the wavelength managing module is a multi-window wavelength-division multiplexer (MWDM). Chen discloses a 4-channel dense wavelength-division multiplexer (wavelength managing module) (Fig. 3a) comprising a plurality of FBT multi-window wavelength division multiplexers (MWDM) (311, 321 and 322 of Fig. 3a).

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One of the ordinary skill in the art would have been motivated to incorporate a multi-window wave-division multiplexer to provide a low loss, inexpensive and reliable narrow band DWDM for high speed, multi-wavelength transmission capable of multiplexing or demultiplexing two light signals known as two-channel WDM (Col. 2, lines 10-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate either a MWDM, as suggested by the teachings of Chen, in the modified optical transmission system of Roberts to construct a wavelength managing module that is also a MWDM that makes a low loss, inexpensive DWDM capable of providing a reliable multi-wavelength transmission in a fiber optic transmission system.

Response to Arguments

6. **Regarding claims 1-2**, applicants argue that Roberts only discloses single wavelength for S1 in one transmitting direction or for S2 in the opposite transmitting direction and the issues for operation for multiple different wavelengths have not been disclosed or considered. Also, the optical amplifier of Roberts is not specifically required to have high isolation function achieved by the optical isolator (Remarks, page 8, 1st paragraph).

7. In view of the above arguments, the Examiner respectfully submits that the optical signal S1 and S2 is a multi-channel optical channel. Plurality of optical signals with different wavelengths (i.e. multi-wavelength) can also be demonstrated through “Red ($\lambda=1552.5$ nm-1557.4 nm) (Col. 8, lines 17-18)” and “Blue ($\lambda=1528.7$ nm-1533.5 nm) (Col. 8, lines 15-16)”.

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For example, four channels are in the Blue band and four channels are in the Red band (Col. 8, lines 23-31). By noting that multiple wavelengths of wavelength division multiplexing technology is being employed (Col. 1, lines 43-47) in Roberts, applicants' claim that multiple different wavelengths have not been disclosed or considered is erroneous. Also, high isolation function is demonstrated via optical isolators 35 and 37, which are coupled with their corresponding amplifier 27 and 31 respectively.

8. **Regarding claim 7**, applicants argue that Chen does not supply the motivation to modify Roberts into multi-window for the WDM.

9. In response to applicant's argument that there is no suggestion or motivation to combine the references (Remarks, page 8, 2nd paragraph), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner would like to reiterate from previous Office Action that one of the ordinary skill in the art would have been motivated to incorporate a multi-window wave-division multiplexer to provide a low loss, inexpensive and reliable narrow band DWDM for high speed, multi-wavelength transmission. Since Roberts discloses about the isolation function, Chen needs not explicitly disclose such isolation function.

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10. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., 4-port Multi-channel (multi-window as disclosed in specification) WDM vs Roberts' 4-port TFF WDM) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

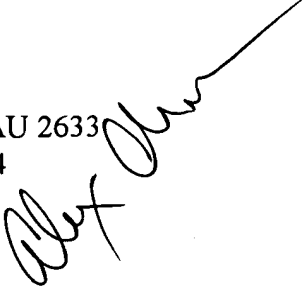
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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex H Chan whose telephone number is (703) 305-0340. The examiner can normally be reached on Monday to Friday (8am to 6pm EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alex Chan
Patent Examiner, AU 2633
February 25th, 2004



JASON CHAN
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